CLAIMS:

1. A tunable interferometer comprising:

a beam splitter for producing first and second write beams from an input beam;

first and second reflectors for receiving the first and second write beams, respectively, from the beam splitter and directing the first and second write beams to intersect at a fixed location with an angle of intersection which is a function of impingement locations of the first and second write beams on the first and second reflectors, respectively; and

means for varying the impingement locations of the first and second write beams on the first and second reflectors.

2. The interferometer of claim 1, wherein the means for varying the impingement locations comprises a tuning element for varying a point of impingement of the input beam on the beam splitter to cause the impingement locations of the first and second write beams on the first and second reflectors to vary.

3. The interferometer of claim 2, wherein the first and second reflectors have fixed positions.

4. The interferometer of claim 3, wherein the beam splitter and the first and second reflectors are integrated in a single structure.

5. The interferometer of claim 2, wherein the tuning element comprises a rotatable mirror.

6. The interferometer of claim 2, wherein the tuning element comprises an acousto-optic modulator capable of providing angle tuning of the input beam.

7. The interferometer of claim 2, further comprising at least one lens located between the tuning element and the beam splitter for directing the input beam from the tuning element to the beam splitter.

8. The interferometer of claim 1, wherein the beam splitter comprises a 50/50 beam splitter which transmits 50% of the input beam as the first write beam and reflects 50% of the input beam as the second write beam.

9. The interferometer of claim 1, wherein the beam splitter comprises a phase mask.

10. The interferometer of claim 1, wherein the first and second reflectors are curved reflectors.

11. The interferometer of claim 1, wherein the first and second reflectors are planar reflectors.

12. The interferometer of claim 1, wherein the input beam is a laser beam.

13. A system for creating gratings having interference patterns of variable periodicity in an optical waveguide, the system comprising:

a light source for providing an input beam;

a beam splitter for producing first and second write beams from the input beam;

first and second fixed reflectors for receiving the first and second write beams, respectively, from the beam splitter and directing the first and second write beams to intersect at a fixed location with an angle of intersection that is a function of impingement locations of the first and second write beams on the first and second fixed reflectors; and

a tuning element for varying a point of impingement of the input beam on the beam splitter to vary the impingement locations of the first and second write beams on the first and second fixed reflectors.

14. The system of claim 13, wherein the light source is a laser beam.

15. The system of claim 13, further comprising:

a device for causing relative longitudinal motion of the optical waveguide with respect to the fixed location to create chirped gratings.

16. The system of claim 13, wherein the tuning element is a rotating mirror mounted on a piezoelectric element.

17. The system of claim 13, wherein the tuning element is an acousto-optic modulator.

18. The system of claim 13, wherein the first and second fixed reflectors have a curved surface of incidence.

19. The system of claim 13, wherein the first and second fixed reflectors have a flat surface of incidence.

20. The system of claim 13, wherein the first and second fixed reflectors and the beam splitter are integrated in a single structure.

21. The system of claim 20, wherein the first and second fixed reflectors and the beam splitter are made of quartz.

22. The system of claim 21, wherein outer surfaces of the first and second fixed reflectors are coated with a reflective material.

23. A method for creating gratings of variable periodicity in an optical waveguide, the method comprising:

producing first and second write beams from an input beam;

directing the first and second write beams to intersect at a fixed location with an angle of intersection which is a function of an impingement location of the input beam on a beam splitter; and

varying a point of impingement of the input beam on the beam splitter to vary the angle of intersection of the first and second write beams, thereby altering the periodicity of the interference pattern in the optical waveguide.

24. The method of claim 23, further comprising:

causing relative longitudinal motion of the optical waveguide with respect to the fixed location to create chirped gratings.